

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 01160933
PUBLICATION DATE : 23-06-89

APPLICATION DATE : 17-12-87
APPLICATION NUMBER : 62317449

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INT.CL. : C07C 43/04 B01J 21/04 C07C 41/09 // C07B 61/00

TITLE : PRODUCTION OF DIMETHYL ETHER

ABSTRACT : PURPOSE: To prevent deposition of carbon on the surface of a catalyst and maintain the catalyst at high activity for a long period, by adding steam or water in dehydrating methyl alcohol in the vapor phase using γ -alumina catalyst and industrially producing dimethyl ether.

CONSTITUTION: Methyl alcohol is dehydrated in the presence of γ -alumina catalyst in the vapor phase at 200–400°C, preferably 250–370°C temperature to produce dimethyl ether useful as a substitute for fluorocarbons (aerosol propellant) causing environmental problems. In the process, steam or water in amount of preferably 5~45 pts.wt. based on 100 pts.wt. methyl alcohol is added thereto to eliminate hot spots in a catalyst layer, smooth temperature distribution and simultaneously remarkably reduce deposition of carbon. Thereby the catalyst activity is maintained at a high level for a long period to enable industrial and extremely stabilized operation. As a result, the aimed compound is obtained by an economic and reasonable process.

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